



PCT

10/519218

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2002DE118	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/005520	International filing date (day/month/year) 27 May 2003 (27.05.2003)	Priority date (day/month/year) 20 June 2002 (20.06.2002)
International Patent Classification (IPC) or national classification and IPC C09B 33/153		
Applicant CLARIANT GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07 January 2004 (07.01.2004)	Date of completion of this report 06 September 2004 (06.09.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/005520

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
 pages 1-29, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☒ the claims:
 pages _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages 1-13, filed with the letter of 19 August 2004 (19.08.2004)
- ☐ the drawings:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

- These elements were available or furnished to this Authority in the following language _____ which is:
- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims	1-13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following documents:

D1: DE 24 51 097
D2: DE 42 25 295
D3: DE 23 29 781
D4: FR 2 237 937.

The present application relates to a method for the production of aceto-acetyl amide diazo pigments which contain two aromatic heterocycles. The method is characterized in that the finishing takes place in an organic solvent at an alkaline $\text{pH} \geq 9$.

1. Document D1 describes aceto-acetyl amide diazo pigments of formula (I) which contain heterocycles (see the definition of R). The compounds claimed in the present application fall under formula (I) of D1. The after-treatment of the pigments of D1 is carried out, *inter alia*, by heating the pigments in an organic solvent, for example NMP (see the examples). Since the present application has been restricted to alkali-containing bases at $\text{pH} \geq 9$ in the presence of an organic solvent, novelty in relation to D1 is acknowledged (PCT Article 33(2)).

Documents D2 and D3 deal with benzothiazole aceto-acetyl amide diazo and benzoxazindione aceto-acetyl amide diazo compounds. It is indicated on page 5, lines 28 to 37 of D2 and page 4, fourth paragraph of D3 that the pigments obtained can be after-treated in organic solvents such as NMP or in water to which organic solvents are added (see the examples). Formula (I) of D2 and formula (1) of D3 differ from the diazo pigments described in the present application in that the heterocycle is a benzothiazole or benzoxazindione group, which is not claimed. Novelty in relation to D2 and D3 can therefore be acknowledged (PCT Article 33(2)).

Document D4 relates to aceto-acetyl amide diazo pigments such as those described on page 1. According to page 3, lines 8 to 16 and example 2, the after-treatment can be carried out on the moist filter cakes in the presence of an organic solvent (25 % water in example 2). However, the diazo pigments of D4 do not contain a heterocycle and differ in this respect from the present application (PCT Article 33(2)).

Novelty in relation to D1 to D4 is acknowledged (PCT Article 33(2)).

3. Document D1, which is considered to be the closest prior art, discloses a finishing method for diazo pigments which is carried out in the presence of a base.

The problem addressed by the present invention can therefore be considered that of providing a method for the production of aceto-acetyl amide diazo pigments.

The applicant has submitted with its letter of 8 June 2004 comparative tests which demonstrate

improvement of the product obtained and thereby substantiate the inventive step. Since a person skilled in the art could not have expected the improvement of the lake dye intensity, the claimed subject matter involves an inventive step within the meaning of PCT Article 33(3).

I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments)*.

Continuation of: I.6

The subject matter of the claims has been restricted to methods in which the finishing takes place in an organic solvent at an alkaline pH ≥ 9 . This feature has been described in claim 10 and on page 10, lines 26 to 30 of the original disclosure. There is therefore no contravention of PCT Article 34(2)(b).

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